



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/739,789	12/20/2000	Takuya Watanabe	NEC2010-US	3842
21254	7590	09/28/2004	EXAMINER	
MCGINN & GIBB, PLLC 8321 OLD COURTHOUSE ROAD SUITE 200 VIENNA, VA 22182-3817			AWAD, AMR A	
			ART UNIT	PAPER NUMBER
			2675	

DATE MAILED: 09/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/739,789	Applicant(s) WATANABE, TAKUYA	
	Examiner Amr Awad	Art Unit 2675	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) 2-4, 8, 16, 21 and 22 is/are allowed.
- 6) ☒ Claim(s) 1, 5-7, 9-15, 17-20 and 23-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 09/739,789 has been entered.

Claim Objections

2. Claim 23 is objected to because of the following informalities: after the word "weight" in the last line of the claim, --unchanged—should be added so as to clearly show that leaving step is to leave the relatively small brightness unchanged. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 5-7, 13, 20 and 23-24 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. These claims recite the limitations "relatively short", "relatively long", "relatively large" or "relatively small". These limitations are indefinite because relatively long, or relatively short does not give an exact

Art Unit: 2675

understanding of how long or how large the charge recovery is. The examiner respectfully requests a correction or explanation.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 9-10, 11-15, 17-20 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Awamoto et al. (US Patent NO. 6,452,590; hereinafter referred to as Awamoto) in view of Hosoi et al. (US patent NO. 6,323,829; hereinafter referred to as Hosoi).

As to independent claim 1, Awamoto (figure 1) teaches a drive apparatus for a plasma display panel (col. 6, lines 59-64), and includes charge recovery circuit that re-uses a recovered electrical charge (for that, Awamoto teaches that the driving circuits 27 and 28 have a power recycling circuit for collecting and reusing the power that was used for charging a capacitor) (col. 7, lines 40-49). Awamoto teaches a intensity detection means for detecting intensity so as to obtain screen intensity information (for that, Awamoto teaches a data processing system (23) includes a memory having a gradation information (intensity information) to be supplied to the driving circuit 28) (col. 7, lines 23-37). Awamoto teaches a charge recovery timing control means for controlling the charge recovery period from a time which a charge recovery operation of the charge

Art Unit: 2675

recovery starts to the time of fixing to a sustaining potential (for that, Awamoto teaches that the power recycling circuit 33a in figure 4 includes 2 inductors 51 and 52, the inductance values can be out of the range depending on the design giving a high priority to the charging and discharging time or the power recycling ratio) (col. 9, line 66 through col. 10, line 23). This is clearly showing that the time of recycling is varying and can be controlled.

Awamoto does not expressly teach that the recovery time control means controls the length of a charge recovery period during a sustaining period from a time to which a recovery operation of the charge recovery circuit starts to a time of fixing to a sustaining potential or a ground potential based upon the results of the comparison.

However, Hosoi teaches a plasma display panel having a charge recovery (abstract), wherein (figures 4-6) shows the charge recovery during the sustaining period (figure 6), and wherein the switches FSW1 through FSW4 control the recovery period (col. 2, lines 62-64, and col. 3, line 62 through col. 4, line 35).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to include the teaching of Hosoi controlling the charging recovery time during the sustaining period to be incorporated to Awamoto's device so as motivated by Hosoi, to be able to control switches in the charge recovery during the sustaining period, and therefore, preventing short circuit by relaying only one signal for turning on one switch from the switch controller to the pulse generator (col. 2; lines 27-42).

As to claim 9, Awamoto show power supply (25), such supply usually indicates the amount of power to be consumed in certain time, which broadly reads on the limitations power consumption measuring means in claim 9.

As to independent claim 10, the method of claim 10 is corresponding to apparatus claim 1 and is analyzed as previously discussed with respect to apparatus claim 1.

As to claim 11, it is known that the intensity of a display is the intensity of each pixel in the display area (see Col. 7, lines 18-22).

As to claim 12, the claim is similar to claim 11 above, by considering that the pre-established pixels of claim 11 are each pixel in the effective display area of the plasma display.

As to claim 13, using the broadest reasonable interpretation of the claim, we can fairly see that in Awamoto's device, if the accumulating intensity is high, the time for recovery will be longer (col. 14, lines 1-9).

As to claims 14 and 18-19, the claims are a broader version of independent claims 1 and 10, and are analyzed as previous discussed with respect to claims 1 and 10.

As to claim 15, Awamoto teaches an accumulator for accumulating a intensity of each pixel (col. 7, lines 18-22).

As to claim 17, it is known that the intensity of a display is the intensity of each pixel in the display area (see Col. 7, lines 18-22).

Art Unit: 2675

As to claim 20, using the broadest reasonable interpretation of the claim, we can fairly see that in Awamoto's device, if the accumulating intensity is high, the time for recovery will be longer (col. 14, lines 1-9).

As to claim 25, the claim is a method claim corresponds to the apparatus of claim 9 and would be analyzed as previously discussed with respect to claim 9.

Allowable Subject Matter

7. Claims 2-4, 8, 16 and 21-22 are allowed.

Response to Arguments

8. Applicant's arguments with respect to claims 1, 9-15, 17-20 and 25 have been considered but are moot in view of the new ground(s) of rejection.


Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amr Awad whose telephone number is (703)308-8485. The examiner can normally be reached on Monday through Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on (703)305-4713. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2675

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



AMIR A. AWAD
PRIMARY EXAMINER

A.A.

September 24, 2004